18W)

PTO/SB/21 (09-04)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Office the Faber Work Treasured From 190		ation Number	lection of into	rmation t	miess icc	iisbiavs a vai	d OMB control number.
	<u> </u>		10/54	12,768	•		·
TRANSMITTALL	Filing		April	5, 2006			
FORM	~ /	lamed Inventor	Karin	e VALLI	Ε		
(AUG 1	2006 m Art Un		1745	5			
(to be used for all corresponderse after initia	Exami	ner Name	Unas	signed			
	Attorn	ey Docket Number	BRV	.10041			
Total Number of Pages in This Submissional			Ditt.	.10041			
	ENCLOSU	RES (Check all	that apply))			
Fee Transmittal Form Fee Attached	Drawing Licensing	(s) g-related Papers			Appeal		cation to Board erferences
Amendment/Reply After Final Affidavits/declaration(s) Extension of Time Request Express Abandonment Request Information Disclosure Statement Certified Copy of Priority Document(s) Reply to Missing Parts/ Incomplete Application Reply to Missing Parts under 37 CFR 1.52 or 1.53	Provision Power of Change Termina Request CD, Nun La Remarks	to Convert to a hal Application of Attorney, Revocation of Correspondence A Disclaimer for Refund haber of CD(s)	oby authorize	redit any	(Appea Proprie Status Other I below)	Notice, Brie etary Inform Letter Enclosure(s :) (please Identify e fees that may be
	ATURE OF API	PLICANT, ATTO	RNEY, O	R AG	ENT		
Firm Name Hutchison Law Group	PLLC						
Signature Mary B. Sh	ant						
Printed name Mary B. Grant	•						
Date 8/9/0 C			Reg. No.	32,1	76 .		
I hereby certify that this correspondence is		OF TRANSMISS			n the Un	ited States	Postal Service with
sufficient postage as first class mail in an e the date shown below:	nvelope addressed	to: Commissioner fo	r Patents, F	P.O. Box	1450,	Alexandria,	VA 22313-1450 on
Signature	an						
Typed or printed name Jennie P. Sr	ead				Date	08/09	06

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

L



IN THE PETED STATES PATENT AND TRADEMARK OFFICE

Applicant: Karine VALLE et al.

Application No.: 10/542,768 Group Art Unit: 1745

International Application No. PCT/FR2004/050025

Examiner: Unassigned

Filing or 371(c) Date: April 5, 2006

Title: Organic-Inorganic Hybrid Material Comprising a

Mineral Mesoporous Phase and an Organic Phase, a

Membrane and Fuel Cell

Confirmation No.: 1613

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. § 1.56, Applicants hereby submit the following information in conformance with 37 C.F.R. §§ 1.97 and 1.98. A copy of each of the documents cited and required by 37 C.F.R. § 1.98 is enclosed.

Some of the listed documents were cited in the International Search Report and a French Search Report in corresponding prior applications, copies of which are enclosed. Copies of a translation of the International Preliminary Report on Patentability is also enclosed.

This Information Disclosure Statement contains information which is not in the English language but was cited in a search report or other action by a foreign patent office in a counterpart foreign application. In accordance with MPEP § 609 IIIA(3), an English language version of the search report or action which indicates the degree of relevance found by the foreign office is being submitted herewith. English language abstracts or claims, or English language equivalent applications also have been provided according to MPEP § 609 IIIA(3), where available.

To assist the Examiner, the documents are listed on the attached form PTO/SB/08. It is respectfully requested that an Examiner initialed copy of this form be returned to the undersigned.

Application No.: 10/542,768

Attorney Docket No. BRV.10041 Page 2 of 2

The cited documents are being submitted within three (3) months of the filing or entry of the national stage of this application or before the first Office Action on the merits, whichever is later. Since these documents are being filed within the time period set forth in 37 C.F.R. § 1.97(b), no fee or statement is required.

The Director is hereby authorized to charge any appropriate fees that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-3218.

Respectfully submitted,

HUTCHISON LAW GROUP PLLC

August & 2006

Registration No. 32,176

P.O. Box 31686 Raleigh, NC 27612 +1.919.829.9600

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on OCCOS

Jennie Snead (Typed Name of Person Signing Certificate)

(Signature of Person Signing Certificate)

08/09/06 Date of Signing:

PTO/SB/08A(08-03)
Approved for use through 07/31/2006, OMB 0851-0031
US Patent & Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Complete if Known Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPOCANT (Use as many sheets as necessary) 10/542,768 **Application Number** April 5, 2006 Filing or 371(c) date **First Named Inventor** VALLE, Karine AUG 1 4 2006 **Group Art Unit** 1745 **Examiner Name** Unknown Attorney Docket No: BRV.10041 Sheet 1 of 4

	US PATENT DOCUMENTS				
Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document		
,	5 342 521	08/30/1994	Bardot et al.		
	5 523 181	06/04/1996	Stonehart et al.		
	6 059 943	05/09/2000	Murphy et al.		
	6 270 846	08/07/2001	Brinker et al.		
	6 592 991	07/15/2003	Wiesner et al.		
	2002/0093008	07/18/2002	Kerres et al.		
	2004/0053060	03/18/2004	Roziere et al.		
	2004/0106044	06/03/2004	Kerres		

		FOREIGN PATE	NT DOCUMENTS	
Examiner Initials*	Foreign Document No	Publication Date	Pages,Columns,Lines,Where Relevant Passages or Relevant Figures Appear	Abstract, Translation, English Language Equivalent or Search Report
	WO 92/06775	04/30/1992		Search Report English Language Abstract and equivalent US 5 342 521 provided
	WO 99/12994	03/18/1999		Search Report English Language Abstract and equivalent US 6 592 991 provided
	WO 00/63995	10/26/2000	·	
_	WO 00/77080	12/21/2000		Search Report English Language Abstract and equivalent US 2002/093008 provided
	WO 01/54216	07/26/2001		
	WO 01/84657	11/08/2001		Search Report English Language Abstract and equivalent US 2004/106044 provided
	WO 02/05370	01/17/2002		English Language equivalent US 2004/0053060 provided
	WO 02/23646	03/21/2002		

EXAMINER

DATE CONSIDERED

PTO/SB/08A(08-03)
Approved for use through 07/31/2008, OMB 0651-0031
US Patent & Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO	Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number. Complete if Known		
INFORMATION DISCLOSURE	Application Number	10/542,768	
STATEMENT BY APPLICANT (Use as many sheets as necessary)	Filing or 371(c) date	April 5, 2006 VALLE, Karine	
(000 00) 0	First Named Inventor		
	Group Art Unit	1745	
	Examiner Name	Unknown	
Sheet 2 of 4	Attorney Docket No: E	3RV.10041	

WO 02/04143	05/23/2002	Search Report English Language Abstract
JP 2000-090946	03/31/2000	English Language Abstract provided
DE 42 25 952	02/10/1994	Search Report English Language Abstract

	OTHER DOCUMENTS NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Abstract, Translation, English Language Equivalent or Search Report		
	Patent Abstracts of Japan, Publication No. 2003016834, published 01/17/2003	Search Report		
	ADJEMIAN, K. T. et al., "Silicon oxide Nafion composite membranes for proton-exchange membrane fuel cell operation at 80-140 degrees C", Journal of the Electrochemical Society 2002, 149, A256-A261.			
	ALBERTI, G. et al. "Solid state protonic conductors, present main applications and future prospects", Solid State Ionics 2001, 145, 3-16.			
	BARADIE, B. et al., "Hybrid Nafion (R)-inorganic membrane with potential applications for polymer electrolyte fuel cells", Journal of Electroanalytical Chemistry 2000, 489, 101-105.			
	BONNET, B. et al., "Hybrid organic-inorganic membranes for a medium temperature fuel cell", Journal of New Materials for Electrochemical Systems 2000, 3, 87-92.			
	COLOMER, M. T. et al., "High porosity silica xerogels prepared by a particulate sol-gel route: pore structure and proton conductivity", Journal of Non-Crystalline Solids 2001, 290, 93-104.			
	CORRIU, R. J. P. et al., "Ordered SBA-15 mesoporous silica containing phosphonic acid groups prepared by a direct synthetic approach", Chemical Communications 2001, 763-764.			
	DIAZ, I: et al., "A novel synthesis route of well ordered, sulfur-bearing MCM-41 catalysts involving mixtures of neutral and cationic surfactants", Microporous & Mesoporous Materials 2001, 44, 295-302.			
	GENOVA-DIMITROVA, P. et al., "Ionomeric membranes for proton exchange membrane fuel cell (PEMFC): sulfonated polysulfone associated with phosphatoantimonic acid", Journal of Membrane Science 2001, 185, 59-71.			
	HARMER, M. A. et al., "Nafion resin-silica nanocomposite solid acid catalysts. Microstructure-processing-property correlations", Green Chemistry 2000, 2, 7-14.			
	JONES D. J. et al., "Recent advances in the functionalisation of polybenzimidazole and polyetherketone for fuel cell applications", Journal of Membrane Science 2001, 185, 41-58.			
	LaCONTI, A.B., "Protein exchange membrane electrochemical capacitors and fuel cells for pulse power applications", Proceedings for the international Power Sources Symposium, June 1992, pp. 298-301.	Search Report		

EXAMINER DATE CONSIDERED

PTO/SB/08A(08-03)

Approved for use through 07/31/2006. OMB/0851-0031

US Patent & Trademark Office: U.S. DEPARTMENT OF COMMERCE
and Information unless it contributes with OATS

Substitute for form 1449A/PTO	Complete if Known	to respond to a conscion of information unless it contains a Yalid OMB control number.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	Application Number	10/542,768	
	Filing or 371(c) date	April 5, 2006	
	First Named Inventor	VALLE, Karine	
	Group Art Unit	1745	
	Examiner Name	Unknown	
Sheet 3 of 4	Attorney Docket No: E	BRV.10041	

	LIM, M. H. et al. "Synthesis of ordered microporous silicates with	
	organosulfur surface groups and their applications as solid acid catalysts",	
	Chemistry of Materials 1998, 10, 467-470.	
	MARGOLESE, D. et al., "Direct syntheses of ordered SBA-15 mesoporous	1
	silica containing sulfonic acid groups", Chemistry of Materials 2000, 12,	
	2448-2459.	
	MATSUDA, A. et al., "Proton conductivity of acid-impregnated mesoporous	
•	silica gels prepared using surfactants as a template", Solid State Ionics 2001,	1
	145, 135-140.	
	MATSUDA, A. et al., "Sol-gel derived porous silica gels impregnated with	
	sulfuric acid - Pore structure and proton conductivities at medium	i
	temperatures, Journal of the Electrochemical Society 2002, 149, E292-E297	
	MAURITZ, K. A. "[Perfluorosulfonate ionomer]/silicate hybrid membranes	
	via base-catalyzed in situ sol-gel process for tetraethylorthosilicate", Journal	
	of Membrane Science 2000, 168, 39-51.	
	MIKHAILENKO, S. et al., "Solid electrolyte properties of sulfonic acid	
	functionalized mesostructured porous silica", Microporous & Mesoporous	
	Materials 2002, 52, 29-37.	
	MIYAKE, N. et al., "Evaluation of a sol-gel derived Nafion/silica hybrid	
	membrane for proton electrolyte membrane fuel cell applications - I. Proton	
	conductivity and water content", Journal of the Electrochemical Society	
	2001, 148, A898-A904.	
	NISHIWAKI, S. et al., " Preparation and proton conductivity of surfactant-	
	templated mesoporous silica gels impregnated with protonic acids", Journal	
	of the American Ceramic Society 2000, 83, 3004-3008.	
	PARK, Y. et al. "Proton exchange nanocomposite membranes based on 3-	
	glycidoxypropyltrimethoxysilane, silicotungstic acid and alpha-zirconium	
	phosphate hydrate", Solid State Ionics 2001, 145, 149-160.	
	SAYARI, A. et al., "Periodic mesoporous silica-based organic - Inorganic	
}		
	nanocomposite materials", Chemistry of Materials 2001, 13, 3151-3168.	
<u> </u>	STAITI, P. "Proton conductive membranes constituted of silicotungstic acid	
	anchored to silica-polybenzimidazole matrices", Journal of New Materials	
	for Electrochemical Systems 2001, 4, 181-186.	
	SOLER-ILLIA, GJ. et al., "Chemical strategies to design textured materials:	
	From microporous and mesoporous oxides to nanonetworks and hierarchical	
	structures", Chemical Reviews, 2002, 102(11): 4093-4138.	
	STANGAR, U. L. et al., "Proton-conducting sol-gel hybrids containing	
	heteropoly acids", Solid State Ionics 2001, 145, 109-118.	
	VICHI, F. M. et al., "Nanopore ceramic membranes as novel electrolytes for	
1	proton exchange membranes", Electrochemical & Solid-State Letters 1999,	
	2, 313-316.	
	WANG, H. et al., "Nafion-bifunctional silica composite proton conductive	
	membranes", Journal of Materials Chemistry 2002, 12, 834-837.	
	inomoranes, Journal of Materials Chemistry 2002, 12, 034-037.	
	YANG, C. et al. "Composite Nafion/zirconium phosphate membranes for	
	direct methanol fuel cell operation at high temperature", Electrochemical &	
	Solid-State Letters 2001, 4, A31-A34.	
L	Sond-State Letters 2001, 7, AST-AST.	

EXAMINER DATE CONSIDERED

PTO/SB/08A(08-03)
Approved for use through 07/31/2006, OMB 0651-0031
US Patent & Trademark Office: U.S. DEPARTMENT OF COMMERCE
on of information unless; it contains a vestion of the contains and the contains an

Substitute for form 1449A/PTO	Complete if Known		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)	Application Number	10/542,768	
	Filing or 371(c) date	April 5, 2006	
	First Named Inventor	VALLE, Karine	
	Group Art Unit	1745	
	Examiner Name	Unknown	
Sheet 4 of 4	Attorney Docket No: BRV.10041		

ZOPPI, R.A. et al., "Electrochemical impedance studies of hybrids of	
perfluorosulfonic acid ionomer and silicon oxide by sol-gel reaction from	
 solution", Journal of Electroanalytical Chemistry 1998, 445, 39-45.	